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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09 927,175	08 10 2001	Robert A. DiChiara JR	7784-000171	4647

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EXAMINER

BARR, MICHAEL E

ART UNIT	PAPER NUMBER
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1762

4

DATE MAILED: 10 08 2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.

09 927,175

Applicant(s)

DICHIARA, ROBERT A

**Office Action Summary**

Examiner

Michael Barr

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 15-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of Group II, Claims 7-14, in Paper No. 3 is acknowledged. The traversal is on the ground(s) that the alternative method given by the examiner of forming the product of Group III would not necessarily form the claimed product. This is not found persuasive because the applicant has not provided any evidence to support his position. Furthermore, the claimed product of Group III can be made by still another, materially different process, which would not require the claimed slurry application, such as applying the solid materials to the ceramic in a dry form and pressing or applying a vacuum to achieve the desired coating impregnating.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-6 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 3.

3. Claims 15-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 3.

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***Claim Objections***

4. Claims 7-8 are objected to because of the following informalities: Claims 7-8 are dependent upon non-elected claims that are withdrawn from consideration. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiChiara, Jr. et al. in view of Kourtides et al.

DiChiara, Jr. et al. teaches protecting porous ceramic articles, including tiles used in high temperature environments, by impregnating the article with a slurry containing a binding agent (silica particle), a ceramic material different from the material of the ceramic article (cordierite), an emissivity modifying agent, and a solvent (water), and then drying and firing the treated article (Col. 1, lines 8-20; Col. 4, line 30-Col. 6, line 27; Col. 7, line 1). DiChiara, Jr. et al. teaches that the emissivity modifying agent can be molybdenum disilicide (Col. 5, lines 28-38).

DiChiara, Jr. et al. does not teach that the slurry contains a boron containing compound. Kourtides et al. teaches applying a protective coating to a ceramic article for use in high temperature environments, similar to DiChiara, Jr. et al., where the coating is applied by a silica containing slurry, which further contains an emissivity modifying agent, which can be

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molybdenum disilicide, silicon carbide, silicon hexaboride, or silicon tetraboride (Abstract, Col. 5, lines 22-50). The teaching of Kourtides et al. suggests that molybdenum disilicide, silicon carbide, silicon hexaboride, and silicon tetraboride are functionally equivalent as emissivity modifying agents for high temperature ceramics, such as those in DiChiara, Jr. et al. and Kourtides et al. Therefore, it would have been obvious to one skilled in the art to substitute silicon hexaboride or silicon tetraboride for the molybdenum silicide in the slurry of DiChiara, Jr. et al., with the expectation of providing the functionally equivalent emissivity modifying properties to the slurry, since it is suggested by Kourtides et al. that such material are substantially functionally equivalent as emissivity modifying agents for high temperature ceramics. The silicon hexaboride and silicon tetraboride read on the claimed boron containing compound.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over DiChiara, Jr. et al. in view of Kourtides et al. and Baker et al.

DiChiara, Jr. et al. and Kourtides et al. are applied here for the same reasons as given above. DiChiara, Jr. et al. and Kourtides et al. do not teach that the emissivity modifying agent is boron carbide. Baker et al. teaches a ceramic article for using in high temperature environments, similar to that of DiChiara, Jr. et al. and Kourtides et al., where the article contains emissivity modifying agents, such as silicon carbide or boron carbide (Col. 1, lines 23-30; Col. 3, lines 5-23). The teaching of Baker et al. suggests that silicon carbide and boron carbide are functionally equivalent as emissivity modifying agents for high temperature ceramics, such as those in DiChiara, Jr. et al. and Kourtides et al. Furthermore, since Kourtides et al. suggests that molybdenum disilicide, silicon carbide, silicon hexaboride, and silicon tetraboride as emissivity

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modifying agents for high temperature ceramics, one skilled in the art would have found it suggested to that molybdenum disilicide, silicon carbide, silicon hexaboride, silicon tetraboride, and boron carbide are functionally equivalent as emissivity modifying agents for high temperature ceramics. Therefore, it would have been obvious to one skilled in the art to substitute boron carbide for the molybdenum silicide in the slurry of DiChiara, Jr. et al., with the expectation of providing the functionally equivalent emissivity modifying properties to the slurry, since it is suggested by Kourtides et al. and Baker et al. that such material are substantially functionally equivalent as emissivity modifying agents for high temperature ceramics.

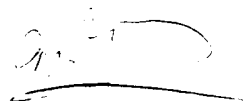
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*Conclusion*

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Barr whose telephone number is 703-305-7919. The examiner can normally be reached on Monday-Thursday 6:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 703-308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 or 703-305-5408 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Michael Barr  
Primary Examiner  
Art Unit 1762

MB  
October 2, 2002